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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/626,877
Filing Date: July 23, 2003
Appellant(s): FERNANDEZ, DENNIS S.

EXAMINER'S ANSWER

This is in response to the appeal brief filed 26 June 2006 appealing from the Office action mailed 28 November 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

2003/0230443	Cramer at al.	12-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 4 – 11, 13 and 15 – 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Cramer et al. (2003/0230443).

Cramer et al. discloses **(re: claim 1)** a vehicle power and telematic control system and **(re: claim 13)** automotive electrical apparatus comprising:

(re: claim 1) an electronic controller (Fig. D10, item 320; and paragraph [0338]),. a fuel cell module (Fig. CR3, item 110); and a telematic appliance (Fig. D10, item 322),

wherein the electronic controller couples electrical power from the fuel cell module adaptively to the telematic appliance (Figs. D8 and D10, item 318 and paragraph [0344]; and Fig. CR3 which shows the fuel cell module (110) providing power to the 42 volt bus (item 139) which provides the source power bus for the telematics controller (Fig. D10, item 322)); and having software run by the controller to manage the power adaptively by redistributing such power reactively or proactively according: to a determined load ratio or power usage proportion (Fig. D10, which shows the central electronic controller (item 320) adaptively managing the power for vehicle dynamics and vehicle body control via high- and low-speed CANs (Computer Area Networks (item 324) which are digital computer networks that, inherently, comprise software; paragraph [0346] lines 6 – 7 stating that "the controllers are connected . . . via a high-speed data backbone"); refer to the reference's paragraphs [0309], [0306] and [0307] and with particular attention to paragraphs [0311], [0312], [0317], [0318], [0332], [0333] and [0338]; and

further comprising **(re: claim 13)** a multi-level voltage unit (Fig. CR3) and a telematic system coupled to the multi-level voltage unit for accessing a first and a second voltage source; and having a software being run to manage the voltage source adaptively by redistributing the power of such voltage source reactively or proactively according to a determined load ratio or power usage proportion (Fig. CR3 and associated text at paragraph [0259] and following, which shows/discuss the fuel cell power being managed by a 'digital power manager" to dynamically and adaptively distribute the power reactively or proactively according to a requirement for a

determined load ratio or a determined power usage proportion, between the power for driving the vehicle (via the high-voltage circuits; refer to paragraph [0260] and following) and the power for the non-traction-motor electrical needs of the vehicle Ring Main Power Supply (Figs. D1 – D10 and paragraph [0309] and following). Since the power manager controller is digital it is inherent that it has a software package for its operation (paragraph [0309])); and,

and wherein **(re: claim 2)** the electronic controller (item 320) stores the electrical power from the fuel cell module by recharging a lithium-ion battery (paragraph [0274], lines 1 – 3 and Table 1: Component and Description; refer to the last sentence of the description for component Nos. 100, 101); and wherein **(re: claim 4)** the controller couples to the fuel cell or telematic appliance through a shared connection through which a control signal and a power signal is provided (paragraph [0336], lines 15 – 18); and wherein **(re: claim 5)** the controller couples electrical power from a generator to the telematic appliance (Fig. D8, item 318 and paragraph [0332], lines 14 – 18); and wherein **(re: claim 6)** the controller controls the electrical power in response to a sensor signal provided by the telematic appliance (paragraph [0379], lines 4 – 9); and wherein **(re: claim 7)** the sensor signal represents a fault or error condition in the telematic appliance (paragraph [0363], lines 1 – 10); and **(re: claim 8)** wherein the sensor signal represents a media format or load in the telematic appliance (paragraph [0356] and paragraph [0357], lines 1 – 3); and **(re: claim 9)** wherein the sensor signal represents a location or jurisdiction of the telematic appliance (paragraph [0371]); and wherein **(re: claim 10)** the electronic controller controls the electrical power in response

to a measured quality of an electrical power signal (paragraph [0264]); and **(re: claim 11)** wherein the controller controls the electrical power according to a predicted function or scheduled service in the telematic appliance (paragraph [0364], lines 15 – 20); and **(re: claim 15)** wherein a DC-DC converter couples the first voltage source to the second voltage source (paragraph [0318] and paragraph [0317]); and **(re: claim 16)** wherein the telematic system is coupled adaptively to the voltage unit, thereby enabling such voltage unit to provide multi-level voltages to one or more telematic appliances from the group consisting of a wireless or satellite network or communications device (paragraph [0351]), a digital video or audio media or entertainment device (Fig. D13 and paragraph [0394]), a global positioning or navigational locator or guidance device (paragraph [0351]), and an image camera (paragraph [0361]), radar (paragraph [0315]) or biometric sensor device (paragraph [0381]); and wherein **(re: claim 17)** the first or second voltage source comprises a fuel cell stack (Fig. CR1, item 110), whereby such stack enables multi-level voltages to be generated by one or more fuel cells from the group consisting of a proton exchange membrane fuel cell (Table 1: item 110: Fuel cell stack; line 1: "this PEM..."), a solid oxide fuel cell, an alkaline fuel cell, a phosphoric acid fuel cell and a molten carbonate fuel cell; and further comprising **(re: claim 18)** a body or power train controller (Fig. D5 and paragraph [0341]), coupled to the multi-level voltage unit for accessing the first and second voltage source; and wherein **(re: claim 19)** the multi-level voltage unit is coupled to a vehicle multimedia bus or a human-machine interface (paragraph [0307]); and wherein **(re: claim 20)** the telematic system comprises an optical, magnetic or biometric sensor (paragraph [0381]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cramer et al. (2003/0230443).

As discussed above, Cramer et al. discloses all of the features of claim 1 from which claim 3 depends and all of the features of claim 13 from which claim 14 depends.

Cramer et al. discloses a vehicle power and telematic control system and automotive electrical apparatus in which the electrical power is provided via power buses of 300 volts and 42 volts (paragraph [0318] and paragraph [0317], respectively) rather than via buses at 36-42 volts and 12 – 14 volts, respectively.

However as the examiner previously took Official Notice, which was not traversed, it is taken as common knowledge that in the automotive arts it is old and well-known to provide the electrical power systems in automotive vehicles at various bus voltages including at voltage levels of 36-42 volts and 12-14 volts depending upon the power needs of the vehicles electrical system (for example, paragraph [0268], lines 12 – 14; paragraph [0269], lines 9 – 13); and paragraph [0332], lines 1 – 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made to have modified the disclosure of Cramer to

include multi-level electrical power buses with voltages in the ranges of 36 – 42 and 12 – 14 volts as obvious engineering design choices based upon the anticipated electrical loads of the vehicle.

Claim Rejections - 35 USC § 102 or 103

Claim 12 is rejected under 35 U.S.C 102(e) as anticipated by Cramer et al. (2003/0230443) or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Cramer et al. (2003/0230443).

As discussed above, relative to claim 1, the reference of Cramer et al. discloses a vehicle power and telematic control system comprising a fuel cell module, telematic appliance, and electronic controller wherein the controller includes software and couples electrical power from the fuel cell module adaptively to control the power by redistributing such power reactively or proactively according to a determined load ratio or a power usage proportion in which the method **(of claim 12)** is considered inherent and comprises the steps of:

- coupling an electronic controller (Fig. CR3) to a fuel cell module (110) and a telematic appliance (supported by the 42V bus, item 139; refer paragraph [0238] lines 9 – 11); and
- controlling adaptively by the electronic controller the fuel cell module electrical power to generate electrical power for the telematic appliance (paragraph [0238], lines 9 – 11); and

- a software being run by the controller to control the power adaptively by redistribution such power reactively or proactively according to a determined load ratio or power usage proportion (paragraph [0309]).

The Examiner posits that the Cramer reference teaches the claimed method of **claim 12** because the method is inherently disclosed. The rationale for this inherency is that the prior art device of Cramer, in its normal and usual application would necessarily require the claimed method for constructing and operating the system. See MPEP Sec. 2112.02, and *In re King*, 801 f2d 1324, 1326; 231 USPQ 136, 138 (Fed Cir 1986).

However, even if not inherent, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the reference of Cramer to include the claimed method of **claim 12**. Because the prior art discloses all the structure necessary to perform the claimed functions, one of ordinary skill in the art would find the claimed method to be an obvious step in light of the disclosed structures of the reference of Cramer.

(10) Response to Argument

Applicant's arguments filed 26 June 2006 have been fully considered but they are not persuasive.

Applicant states, ..."claim 1...Contrary to Examiner's contention, Cramer's...do not teach nor suggest the dynamic adaptive capability of the central controller to distribute power..."

Cramer's disclosure taken in the context of Fig. D10 which shows the controller (item 320) adaptively managing power via a Computer Area Network (item 324) which inherently (see above rejection) comprises software that is responsive to various criteria needed to manage power in the vehicle as disclosed in paragraphs [0311], [0312], [0317], [0318], [0332], [0333] and [0338] of Cramer.

Applicant also states, "...claim 13...Cramer's digital power manager that controls high-power switches to dynamically allocate battery or fuel-cell power only pertains to powertrain systems...not sufficient to show that Cramer's software is designed to manage the voltage source adaptively by redistributing power reactively or proactively according to a determined load ratio, or power usage proportion to any telematic appliance..."

Cramer's disclosure in Figs. D8 and D10, item 318, the associated text of paragraph [0344] and Fig. CR3 show that the fuel cell module (item 110) provides power to the 42-volt bus (item 139) which bus provides the source power for the telematics control, further referring to Fig. D10, item 322 of the reference.

For information on the redistribution of power, see the above discussion of claim 1.

Applicant also states, "...Cramer et al. does not disclose all of the features of claim 1 from which claim 3 depends and does not disclose all of the features of claim 13 from which claim 14 depends."

See the above discussions on the merits of claims 1 and 13.

Applicant also states, "...relative to claim 1, the reference of Cramer et al. does not disclose all of the features of claim 12..."

See the above discussions on the merits of claim 1.

For these reasons, the rejections stand.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

JDW

JW

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